

Title (en)

MICROPOROUS MEMBRANES, METHODS FOR MAKING SUCH MEMBRANES, AND THE USE OF SUCH MEMBRANES AS BATTERY SEPARATOR FILM

Title (de)

MIKROPORÖSE MEMBRANEN, VERFAHREN ZUR HERSTELLUNG SOLCHER MEMBRANEN SOWIE VERWENDUNG SOLCHER MEMBRANEN ALS BATTERIESEPARATORFILME

Title (fr)

MEMBRANES MICROPOREUSES, LEURS PROCÉDÉS DE FABRICATION, ET LEUR UTILISATION COMME FILM SÉPARATEUR DE BATTERIE

Publication

EP 2442895 B1 20150225 (EN)

Application

EP 10789945 A 20100608

Priority

- US 2010037755 W 20100608
- EP 09168193 A 20090819
- US 21872009 P 20090619
- US 35138010 P 20100604
- US 29875610 P 20100127
- US 29875210 P 20100127
- US 34667510 P 20100520
- EP 10789945 A 20100608

Abstract (en)

[origin: WO2010147798A2] The present invention relates to microporous membranes comprising polymer and having well-balanced permeability and heat shrinkage, especially heat shrinkage at elevated temperature. The invention also relates to methods for making such membranes, and the use of such membranes as battery separator film in, e.g., lithium ion secondary batteries.

IPC 8 full level

H01M 50/403 (2021.01); **H01M 50/406** (2021.01); **H01M 50/417** (2021.01); **H01M 50/449** (2021.01); **H01M 50/489** (2021.01); **H01M 50/491** (2021.01); **H01M 10/0525** (2010.01)

CPC (source: EP KR US)

H01M 10/0525 (2013.01 - KR); **H01M 10/0565** (2013.01 - KR); **H01M 10/30** (2013.01 - KR); **H01M 10/32** (2013.01 - KR); **H01M 50/403** (2021.01 - EP KR US); **H01M 50/406** (2021.01 - EP US); **H01M 50/414** (2021.01 - KR); **H01M 50/417** (2021.01 - EP KR US); **H01M 50/449** (2021.01 - EP KR US); **H01M 50/463** (2021.01 - KR); **H01M 50/489** (2021.01 - EP KR US); **H01M 50/491** (2021.01 - EP KR US); **H01M 10/0525** (2013.01 - EP US); **H01M 2220/20** (2013.01 - KR); **H01M 2220/30** (2013.01 - KR); **Y02E 60/10** (2013.01 - EP KR); **Y02P 70/50** (2015.11 - KR); **Y02T 10/70** (2013.01 - KR US); **Y10T 428/249978** (2015.04 - EP US); **Y10T 428/249993** (2015.04 - EP US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

WO 2010147798 A2 20101223; **WO 2010147798 A3 20110331**; CN 102458622 A 20120516; CN 102458622 B 20150401; EP 2442895 A2 20120425; EP 2442895 A4 20121107; EP 2442895 B1 20150225; JP 2012531011 A 20121206; KR 101800685 B1 20171123; KR 20120059458 A 20120608; US 2012088149 A1 20120412; US 8951677 B2 20150210

DOCDB simple family (application)

US 2010037755 W 20100608; CN 201080027085 A 20100608; EP 10789945 A 20100608; JP 2012516124 A 20100608; KR 20117030305 A 20100608; US 201013322631 A 20100608